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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,010	01/17/2002	Saket Chadda	SFI 1017	9154

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EXAMINER

RACHUBA, MAURINA T

ART UNIT	PAPER NUMBER
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3723

DATE MAILED: 08/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/052,010

Applicant(s)

CHADDA ET AL

Examiner

M Rachuba

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
 Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 and 8-19 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

**DETAILED ACTION**

1. Prosecution on the merits of this application is reopened on claims 1-4, 8, 9 and 14-17, considered unpatentable for the reasons indicated below.

***Election/Restrictions***

2. Applicant's election without traverse of species 2 in Paper No. 14 is acknowledged. Claims 6, 7, 20-27 and 38-46 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 10 requires the second pressure to be higher than the first pressure. The first pressure has been limited to "substantially between 0.1 and 3.0 psi", claim 3. Claim 11 limits the second pressure to "substantially between 3.0 and 10 psi". As the range overlaps, the second pressure, in some instances will not be greater than the first pressure. The scope of the claim cannot be readily determined.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(f) he did not himself invent the subject matter sought to be patented.

6. Claims 1-3, 5, 8, 10, 11, 13, 14-16, 18 and 19 are rejected under 35

U.S.C. 102(b) as being anticipated by Kondo et al US006117775A (previously cited by applicant in the IDS filed 17 January 2002) . Please refer especially to column 6, lines 5-14; and the description of embodiment 1. '775 discloses the claimed invention, including pre-treating a copper film to substantially remove the film and polishing the metallized surface to at a first pressure. Note that the pressure is  $200 \text{ g/cm}^2$  (approximately 3 psi). Note that the polishing solution contains no abrasive, or less than 1% abrasive (reading on the limitation that the solution is an abrasive solution) (embodiment 4). Further, it is inherent that the processing disclosed by '775 occurs at a temperature. As '775 does not disclose a specific temperature, it is inherent that the temperature be "room" temperature, between 65 and 80 degrees F (18-26 degrees C), falling within the claimed range.

7. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Zhong et al, US006629878B1. Please refer to column 3, lines 25-33; column 4, lines 21 through 27; column 7, lines 22-29 and claim 1.

8. Claims 1-4, 8-12, 14-16, 18, and 28-32, and 34-37 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Tsai et al, 2003/0022501 (US Priority date of July

25, 2001). Applicants' affidavits do not overcome the rejection under 35 USC 102(e).

Please refer to the discussion of the affidavits under 37 CFR 1.131 above.

9. Claims 1-5, 8-19, and 28-37 are rejected under 35 U.S.C. 10249 because the applicant did not invent the claimed subject matter. Please refer to the discussion of the affidavits under 37 CFR 1.131 above.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 4, 9, 12, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al, '775. '775 does not disclose the various pressures of CMP, the temperatures that the pre-treating and polishing occur at, the time of pre-treating, or that the relative movement is orbital. '775 discloses that the pressures may be different than that disclosed, column 12, lines 2-3. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have varied the pressure as desired, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Here, pressures may be varied dependent on the chemistry of the polishing solution, and the material being polished, to achieve a specific polishing rate. Regarding the relative movement being an orbital movement, the examiner takes Official notice that the use of orbital polishing pads in

CMP processing is old and well known, and that one of ordinary skill would consider it obvious to use an orbital motion, to provide random scratches across the surface of the workpiece. Regarding the time of pre-treatment. It is inherent that the pre-treatment of '775 occurs over a period of time. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have limited the pre-treatment to any desired time period, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Here, the time of pre-treatment would depend on the material being treated and the original thickness.

#### ***Response to Arguments***

12. Applicant's arguments with respect to claims 1-5 and 8-19 have been considered but are moot in view of the new ground(s) of rejection.


13. The affidavit under 37 CFR 1.132 filed 10 February 2005 is insufficient to overcome the rejection of claims 1-5 and 8-19 based upon Tsai et al as set forth in the last Office action because: While the declaration is sufficient to establish date of conception, there is no evidence supporting diligence and reduction to practice. There is no evidence that the tests were successful .

#### ***Conclusion***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M Rachuba whose telephone number is 571-272-4493. The examiner can normally be reached on Monday-Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 M Rachuba  
Primary Examiner  
Art Unit 3723 